AMERICAN ANNALS OF THE DEAF

FOUNDED 1847

Official Organ

Conference of Executives of American Schools for the Deaf
FOUNDED 1868

Convention of American Instructors of the Deaf
FOUNDED 1850

●

POWRIE V. DOCTOR
Editor

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Executive Committee of the Conference

MARCH

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The Conference of Executives of American Schools for the Deaf, originally the Conference of Superintendents and Principals of American Schools for the Deaf, was founded in 1868 and subsequently incorporated under the laws of the State of Maryland in 1931. The Conference is an organization of the executive heads of schools for the deaf in the United States and Canada, and has for its object "to promote the management and operation of schools for the deaf along the broadest and most effective lines and to further and promote the general welfare of the deaf."

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The Convention of American Instructors of the Deaf, founded in 1850 and incorporated by act of Congress in 1897, is an organization of educators of the deaf in the United States and Canada with the general object of "promotion of the education of the deaf on the broadest, most advanced, and practical lines," and for that purpose "to secure the harmonious union in the organization, of all persons actually engaged in educating the deaf in America."

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AMERICAN ANNALS OF THE DEAF

Vol. 98 March, 1953 No. 2

"Toward a New Understanding of the Deaf Child"

The theme for the meeting of the Convention of American Instructors of the Deaf, which will be held at the Washington State School for the Deaf, Vancouver, Washington, June 28–July 3, 1953, will be "Toward a New Understanding of the Deaf Child."

The keynote address will be given by Dr. Helmer Myklebust, Professor of Audiology, Northwestern University, Evanston, Illinois. An excellent program is being planned for the meeting under the direction and supervision of Dr. Truman L. Ingle, Vice-President of the Convention, Chairman of the Program Committee, and Supt. of the Missouri State School for the Deaf. The social events and housing are being taken care of by Supt. Virgil W. Epperson, Supt. of the Washington State School for the Deaf, and members of his staff. One of the highlights of the meeting will be an all day tour to Mt. Hood. This is the first time that the Convention of American Instructors of the Deaf has met in the Pacific Northwest. We feel certain that the excellent program, the hospitality of the people of the Northwest, and the scenic grandeur of the location will attract many teachers.

Daniel T. Cloud, President
Convention of American
Instructors of the Deaf

Education for the Deaf in England

SAM D. TAYLOR, B.A.
American School for the Deaf, West Hartford, Connecticut

THE privilege of being an exchange teacher to the Royal School for Deaf and Dumb Children in Margate, Kent, England, during the school year of 1951–52, has presented the opportunity of observing English schools in operation.*

In England children with defective hearing are classified on an educational basis and not on the grounds of hearing loss or development of speech or language taken in isolation. They are also classified for administrative and scientific purposes on an educational basis in the following grades:[1]

Grade I

These children can hear and understand conversation at 20 feet and over in ordinary classroom conditions. They have a hearing loss up to 35 decibels (pure tone audiometer). They can be educated in an ordinary school without any special adjustments being made.

Grade II

Children in this group can hear and understand conversation between 20 feet and 2 feet away in ordinary classroom conditions. They have a hearing loss between 35 and 60 decibels. (P.T.A.) By reason of their defect they cannot be properly educated without special arrangements or educational facilities. These facilities range from a favorable position in the ordinary school classroom to attendance at a special class or school. The children in this grade are also subdivided into two groups:

Grade II A.

This grade consists of children within Grade II who can make satisfactory progress in ordinary schools provided they are given some help, whether by favorable position in class, by individual instruction in lipreading or by individual hearing aids.

* Miss R. Monica Stayner of England was Exchange Teacher at the American School for the Deaf, West Hartford, Conn., during 1951–1952.

[1] *Children with Defective Hearing*, Board of Education, Committee on Children with Defective Hearing, pp. 125–127, 1938.

Grade II B.

This group consists of those children within Grade II, who even with the help of favorable position in class, individual hearing aids or lipreading instruction, fail to make satisfactory progress in ordinary schools. These children are placed in schools for the partially hearing.

Grade III

This grade consists of children whose hearing is so defective and whose speech and language are so little developed that they require education by methods used for deaf children without naturally acquired speech or language. Their hearing loss is over 60 decibels. (P.T.A.)

At the University of Manchester, Department of Education of the Deaf, children in Grade III are again subdivided as follows:

Grade III A.

These children can hear sound over a frequency range of not less than four octaves and after practice can distinguish most vowels and at least a few consonants without lipreading. Combined use of a hearing aid and lipreading, therefore, facilitates language development and acquisition of correct pronunciation.

Grade III B.

These children can hear sound over a frequency range of less than four octaves and the use of hearing aids facilitates lipreading and therefore language development and progress in school subjects. It helps in voice training but in the improvement of pronunciation only a limited extent, if at all.

Grade III C.

These children are totally deaf and will not benefit from the use of class hearing aids.

In many large schools children are divided into three streams A, B, C, according to their aptitude and ability.

This classification is in general use and does away with such vague terms as semi-deaf and semi-mute.

Some 4,000 deaf children are now being educated in either schools for the deaf, schools for the partially-hearing or a partially-hearing unit set up in schools for hearing children.

John H. Blount, Headmaster and Inspector of Schools for the Deaf in London, is responsible for having set up four

units which were opened in ordinary schools in 1947 and 1948. These units are treated in the same way as schools for the deaf in matters of size of classes, appointment of qualified teachers of the deaf, transportation of children to and from school, and medical treatment.

These units were opened with partially deaf children transferred from the schools for the deaf and a few who were still in ordinary schools as the result of parental objection to attendance at schools for the deaf. The purpose of these units is to maintain speech and language development; to give auditory training; to give training in lipreading; and in the use of hearing aids.

These partially-deaf children are on the rolls of the ordinary school and associate with hearing children for assembly and prayers, singing, physical training, games and other activities. At a later stage, when lipreading is well established and the children have confidence in the use of their hearing aids, they are taken into ordinary classes for art and craft work and progressively from part-time to full time, for ordinary class work.

These units are claimed to be successful as some 70 to 80% of the partially-deaf children go on to ordinary schools and hold their own provided they are given a favorable position in class and continue to use hearing aids. The period of training varies; some of the partially deaf children go to ordinary schools after only six months in the unit whereas others take up to two years before they are considered suitable for transfer.

Blount has discovered that some problems and difficulties have arisen and I am sure they are of general interest.

The age range of the children is from five to twelve. This wide age range, together with a wide range of abilities and language development, in a two-class unit is not satisfactory and the only remedy is to increase the number of classes in the unit. Partially deaf children under five years of age attend the nursery departments of the schools for the deaf.

Mr. Blount states that:

(a) The educationally sub-normal child with a very slight loss of hearing was an unexpected problem in the early days of the unit. The loss of hearing was so slight that but for educational sub-normality the child would

have had no difficulty in keeping up with the rest of his class in the normal school and would probably have remained there. Inattention and backwardness were attributed to a more severe degree of deafness than was in fact the case, and on thorough examination it was ascertained that inattention was due only in small part to a loss of hearing and to a much larger measure to educational sub-normality. This type of child is cared for adequately in the schools for educationally sub-normal children and the very slight deafness is found not to be a handicap when there is provision for special educational treatment to suit his ability and mental development.

(b) The majority of the partially deaf children in the units have no complications of personal or emotional maladjustments but where there is this complication it is usually very prominent.[2]

And finally a real problem is that which concerns children who become totally deaf or partially deaf at an age when they are in senior schools, or about to be transferred to senior schools, and who still have normal language and speech.

It is hoped to arrange for children in this category to attend ordinary schools and also to attend for several forty-five minute periods per week at a nearby school for the deaf for individual instruction in lipreading, auditory training and training in the use of hearing aids.

In accordance with the Education Act deaf children must attend school between the ages of five and sixteen and if parents so desire the Local Educational Authority must arrange for education at any age after two years. The cost of education is met by the Local Educational Authority.

All schools for the deaf do not come under the State Education Authority as the old voluntary (private) schools still exist, but it is felt that these schools may some day be taken over by the Local Education Authorities.

For Roman Catholic or Jewish children there are special schools and parents have the right to ask that their children should be sent to these schools if they so wish.

There are two schools in England for the backward deaf. They are taught by the three-fold system of speech, finger

[2] J. H. Blount, "Recent Developments in London Education for Deaf and Partially Deaf Children," *The Teacher of the Deaf*, Vol L. April, 1952, pp. 55–57.

spelling and the language of signs. The curriculum has a tendency to be on a more practical basis. The two-handed manual alphabet is used throughout the United Kingdom instead of the single handed one. There are excellent infant and nursery schools and at Manchester University there is a well-equipped clinic for the testing of the preschool child. At this clinic parents are instructed in giving their children informal home training to develop lipreading and spontaneous attempts to talk. They are also helped to understand their children's specific needs for special educational treatment and the ways in which these needs can be met at the type of school for the deaf or partially deaf that is most appropriate in their child's case.

Many schools offer part-time trade training from the age of 14 to 16, except the Royal School for the Deaf in Manchester where full time trade training is given. The students may remain there until they are 19 years of age. At two other schools in London, one for senior girls, the other for senior boys, the students may remain until 19, but the majority leave school at the age of 16. Tailoring, dressmaking, laundry work, bookbinding, carpentry and baking are some of the trades at which the deaf are successful. Because of this part-time trade training in schools the students do not have to serve a year's apprenticeship as is required from children in ordinary schools. At present there is no unemployment among the deaf.

There is one school called the Mary Hare Grammar School for advanced academic training. Children between the ages of 12 years and 13 years, 6 months are eligible and candidates are chosen on a merit basis with consideration being given to age, type, and degree of deafness. The children are required to take an entrance examination which consists of both a written test and an oral one. The written test includes language, composition, general knowledge and arithmetic. Candidates for the oral test are then selected on the results of the written test and the Headmaster's reports. It is most interesting to note that of the 785 eligible pupils in schools for the deaf or partially-hearing in 1952, 68 candidates were entered and completed the written papers. Of these 20 were selected for the oral examination and 12 were finally admitted. These consisted of six Grade II B and six Grade III students.

The enrollment at present is about 75 students and the number of places is determined by the number of senior pupils leaving at the end of the school year. The students are given courses in science, history, mathematics, English and a foreign language which lead to an examination for their certificate or diploma. Some go on to a college.

Organizations

The National College of the Teachers of the Deaf is an association made up of all qualified teachers of the deaf. These teachers meet about four times a year in the areas in which they are teaching. There is also an executive committee of some twenty-four members plus six officers. This association is solely interested in the welfare and education of the deaf child.

The Teacher of the Deaf is the official organ of the National College of the Teachers of the Deaf. It is published six times a year.

The National Union of Teachers is one of the strongest union organizations in England. It is estimated that some 70% of all teachers are members. The aim of the Union is to help the teacher in any legal entanglements relative to his work. It also acts on behalf of the teachers in matters relative to salary and working conditions.

There are many other organizations such as the National Union of Women Teachers, the National Union of Schoolmasters and the Headmaster's Association, whose aim is to assist and protect the teacher or headmaster concerned.

The National Institute for the Deaf was first set up in 1911 and its membership is largely comprised of deaf adults. This organization is concerned with the promotion of the welfare of the deaf and it maintains a reference and lending library, which is freely used by teachers of the deaf, student-teachers and by the deaf and partially-deaf themselves. The Institution maintains two homes for women and a hostel for boys. Lipreading classes are held at the Institute and lipreading teachers are trained and examined by the National Institute for the Deaf.

The Silent World, the monthly journal of the N. I. D., was first published in 1946 and is the only popular magazine, dealing with the various aspects of deafness, in the British Isles.

At present there are more than seventy independent voluntary societies all over the United Kingdom which are providing a comprehensive service of religious and general welfare work for roughly some 35,000 people. The Missions provide regular services and other religious ministrations in a way that all the deaf can fully understand and so be enabled to join intelligently in the worship of God. The Missioners, along with the help of the classroom teacher, train the pupils for confirmation. The three-fold system of fingerspelling, speech, and the language of signs is used to enable all deaf people to benefit from religious services. In placement work, the Missioners work closely with Labor Exchanges and other placement bureaus. Business organizations are required to employ a proportionate amount of handicapped personnel. The Missioner must be able to interpret for the deaf in the manual language in court procedures.

The social clubs of the deaf, which exist in connection with every mission, provide many social activities. These clubs compete with hearing leagues in football, cricket, tennis, and other sports.

The Training of Teachers

At present there is only one training center which is at the Manchester University, Department of Education of the Deaf, under the direction of Professor A. W. G. Ewing. Some sixty teachers are trained there each year. However, there is an acute shortage of trained teachers of the deaf in the United Kingdom and in order to relieve this, qualified teachers for hearing children in public schools, may be employed in a school for the deaf on an in-service training basis. These teachers must pass an examination prescribed by the National College of the Teachers of the Deaf at the end of a three year period.

To my mind, the drawback with this type of arrangement is that deaf children may be under untrained teachers for an extensive period.

Miscellaneous

In general no deaf teachers or teachers with defective hearing are employed as academic teachers but there are deaf teachers employed in the vocational departments.

There are no Supervising Teachers but there are Heads of Departments. Although the primary purpose of these Heads is to teach their own class, they do have other duties such as ordering supplies, handling discipline problems, arranging classes and the like.

Along with regular teaching duties, teachers are employed in most residential schools as assistant Masters and Mistresses for supervision of children throughout 24 hours except when the students are in school or asleep. The number of days a teacher is on duty depends on the size of teaching staff employed. There is also a dormitory supervisory staff at many schools, but their duties consist mainly of caring for the boys' and girls' specific needs: mending clothes, changing of linen, and the like. The problem of discipline is the responsibility of the teacher-in-charge.

There are many more men teachers employed in schools for the deaf in England than in America because of the high prestige of the teaching profession in that country.

At present there is a heated controversy over the topic of equal pay for women. The starting salary for men is about $1300, a little less for women. Salaries vary with length of experience and type of college degree. There is a yearly increase of about $50.00 for a maximum of fourteen years.

There seems to be a general feeling among the teachers with whom I talked that a good language course of study is one of the greatest present needs. In my travels to various schools, none were using such methods as the Fitzgerald Key or the Barry Five Slate Method. Much of the teaching of speech is based on Sibley Haycock's *The Teaching of Speech.*

The size of the classes in many schools range from ten to twelve children. The children in day schools are provided with free transportation to and from school and may buy their lunch at a cheap price. Pupils in all schools are provided with free milk under the National Health scheme.

The school year extends from the first part of September until the end of July with a holiday of three weeks at Christmas and two weeks at Easter.

All positions are advertised and in cases of vacancies for Headships, the wife is generally interviewed for a position as Matron.

The Government hearing aid called Medresco is issued free of charge under the Ministry of Health Scheme to all those children and adults who may benefit from a hearing aid.

Her Majesty's Inspectors are Government Inspectors employed by the Ministry of Education. Their duty is to visit all schools throughout the United Kingdom and to assess what the school is trying to do and to what extent the aims of the schools are being achieved.

While theoretically, all schools in England are oral, pupils make wide use of manual means of communication outside the class rooms. The one exception noted was the Mary Hare Grammar School where communication seemed to be purely oral, both in and out of class. Finger spelling is also used by staff members for group gatherings such as chapel talks and the like, and manual means are not infrequently used in the instruction of slow children. There is undoubtedly strong sentiment among some educators for a more liberal attitude on the part of the schools in the matter of communication, and most missioners strongly favor the use of both the language of signs and finger spelling wherever they would seem advantageous.

It is generally recognized that Professor and Mrs. A. W. G. Ewing are strong advocates of oral instruction. However, they too apparently feel some need in this respect, judging from their comments as follows:

> We hope that the day is not too far distant when a better system of classification will ensure that those, who after a fair trial in an oral nursery and infant school, prove that they cannot make satisfactory progress there, will be transferred without loss of time to another school that will make special provision for them . . . It is neither fitting nor just that a child who proves unsuitable for oral methods of education should remain in an oral school.[3]

[3] Ewing, Irene R. and Alex, W. G., *Opportunity and the Deaf Child*, 1947, p. 113.

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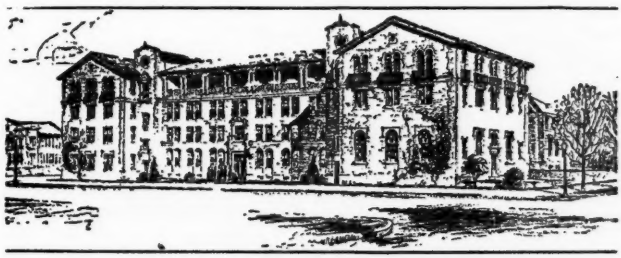

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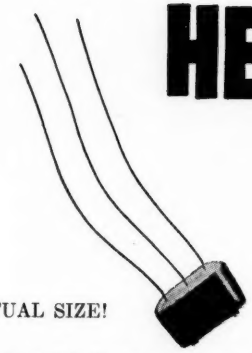

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Is Our Teaching Meaningful?

THOMAS H. POULOS, M.A., PRINCIPAL
Michigan School for the Deaf, Flint, Michigan

MEANINGFUL teaching and the problem it presents has been a point of concern to teachers in every area of education, but even more so has it presented a challenge to the teacher of the handicapped child, for with this added physiological limitation teaching takes on a more complex form.

We, as teachers of the deaf, must not discount the fact that though we are teaching children, we are also teaching an acoustically handicapped group of children. With this last point in mind, it is necessary that we recognize the restrictions that this auditory handicap places on the environmental forces that act upon the child.

Dr. Mildred Templin of the University of Minnesota made a comprehensive study on the development of reasoning in children, both deaf and hearing, and the effect of limited environment on this development. She found that the auditory handicap did more to restrict the environment of the child than extrinsic factors did. Defective hearing was classed as an intrinsic factor in this study, while residence of the pupil was classed as an extrinsic factor. The degree of hearing loss, the age of onset of deafness, and the length of time of deafness, were all factors which affected reasoning ability.

To give us the background for the purpose of this discussion let us review briefly our psychology of learning so that we will all be thinking in the same terms as we go along. An individual's entire past experience influences his reaction to any situation in which he may find himself. The growing effect of the developmental nature of the forces involved in past experiences can be illustrated if we visualize a right triangle with a child's life starting at the apex. As life goes on and forces of the environment play upon him, he progresses chronologically on the horizontal line of this triangle. The other ordinate, or vertical line, represents the qualitative nature of experiences. As he first starts out, there are very few forces acting upon him. The

area enclosed by the vertical line and the original apex represents his past experiences. However, as he proceeds chronologically along you will notice that on the basis of some of these earlier forces (past experiences to us) he will consequently react differently to the new experiences he is encountering. This principle described in the Kurt Lewin studies is one of the most elementary ones we find in our psychology of learning and the importance of experiences and the effect they have on the individual has been recognized in almost all classrooms and as a result the teaching has been enriched.

You are familiar with the experience stories talked about in the grades. Proceeding to another point which presents a great problem to the teacher, there is the problem of taking the child through these various experiences involving in the earlier stages, the "concrete." Many of us do say that we start the deaf with the "concrete" and later on proceed to the "abstract." A number of studies have been made determining the developmental curves for language and thinking of the deaf. Long and Welch carried on a series of studies in the *Development of Abstract Concepts in Children* (2). Cord O. Wells conducted a study with both deaf and hearing children in the *Development of Abstract Language Concepts* (3).

The problem that presents itself is one of taking the deaf child from this concrete stage—no matter where it may occur—and encouraging him in his thinking to proceed into the abstract level. Teaching the abstract to the deaf is very difficult; yet, if we were to digress in our developmental curve and analyze the situation, we will find that the abstract has been taught in the earliest stages of our educational program for the deaf.

In teaching the child a particular noun in question, which is rather concrete, he sees the object, he feels it, he knows what it can do and what he can do to it. It is very concrete to us but for the child it is not only concrete but also stimulating to him as concerns his thinking. If we will recall from our elementary psychology in our analysis of the nature of concepts, the percept is one of the earlier forms in the developmental curve concerning concepts. We must perceive first—the percept is seeing it—nothing imaginative about it—you are actually seeing it. That is

the concrete. You are starting on your road to establishing a concept—the percept. Progressing beyond this stage of perceiving to the next level involving a situation wherein the particular object is not at hand, the child can think back and can remember that particular object. Probably, he remembers that it had a certain color, a certain form. He may not remember all its details but in remembering this mental picture of that particular object he has gone into the stage of forming images. They are better classified in the psychology of learning as images pertaining to memory. These images are purely reproductive in form and not quite detailed—nothing original—something he is remembering from a time before. In all cases these images of memory are derived from experiences. However, were the child to advance to the stage of thinking on the basis of some of the things he either has, or has not, seen before, he constructs images that are entirely different from any he has seen before; he has progressed to the stage of using imagination which is a more complex form of thought. This image, as a result of the imagination, is quite different from that of memory.

This is the development to the concept. Actually the various forms of the "concept" in the developmental pattern went from the *percept* to the *image* then to the *concept.* It is that which is the sum total effect that remains with us as a result of our experiences that is the concept. (4)

Now why do we say "sum total"? Sum total because these are based on word images and the relationships that we have linked together from objects and reactions to objects, persons, and events.

The abstract does not find itself very far removed from the concrete as may have been hinted earlier. The teacher presents the object and soon the identification or the word related or associated with the object is presented. However, the meaning of the object, its use, what it can do, has also been presented somewhat. Soon the object is no longer necessary when dealing with the representative of the object—the word—for the meaning of the object has been transferred to the word and the word in its association with the object satisfies the significance of the meaning of the object for the child. The key to the entire transfer is association. Association and meaning go hand in hand.

The child dealing with the word, on the basis of his ability to formulate an image, and his further ability to be able to develop the final concept, is purely doing nothing more than developing his abstract thinking.

What can the teacher do to encourage this meaningful teaching and to encourage the developmental pattern of abstract thinking? Technique plays a very important part. The teacher of the deaf has developed a series of techniques to overcome the communication problem on the one hand and the intrinsic limitations on the other. By communication, I mean communication both to and from the individual.

Aside from technique, the other very important aspect to the entire encouragement program is content. The teacher plays a very important part in the selection of content to be taught. Groups of teachers have gotten together and have formulated tentative curricula or courses of study.

As guides, the curriculum can serve its purpose. With the curriculum on the one hand and with some other criteria influencing the selection of content on the other the teacher finds herself not entirely lost in this selection of content to teach. The other criteria include the items needed to be taught as a result of utility in adult life. The converse of that is the items needed more immediately to be used by the child at the present time. Studies have been noted and interesting points have been emphasized by Caswell and Campbell in their *Curriculum Development* in which these two criteria—adult use and child interest and use, play a very important part in the scientific selection of subject matter. (5)

Psychology of learning emphasizes that no two individuals can react to the same situation in exactly the same way; nor can the same individual react to the same situation at two different times in exactly the same way. That is very easily understood if we go back to our psychology of learning which was briefly discussed earlier wherein it was said that on the basis of the past experience of any individual he reacts to new experiences; and even if we take the same individual one time in a situation and two hours later present him with the same situation, he will not be the same individual for he already will have experi-

enced that which took place two hours before. On the basis of that fact he will react differently the second time.

The point to emphasize is that curricula and courses of study are meant to be, and should serve as, guides only. The needs and interests of the pupils, as well as other criteria necessary for making teaching meaningful, should play an important part in selection of content. Along this same line—approaches to problems involved in teaching some content material prepared for earlier groups of individuals are not necessarily valid—or quite as meaningful—to a second group a year or several years later. We know that the needs and interests and general make-up of individuals are different—one group from the other. So, as individuals vary one from another, and as interests and needs of groups change or differ one from another, and as demands of society are different one year from another, it behooves the teacher to be alert to these changes that are involved and to be meaningful in her teaching by recognizing all these differences.

As concerns technique, mentioned earlier, many teachers in order to make responses become automatic for their children resort to various devices and techniques one of which is the so-called drill-type lesson. This technique when used for a purpose is invaluable to the teacher. When the teaching remains at the drill level—in other words we are teaching only the device—its value as an aid to learning ceases to exist. In other words, if the drill is used to bring out a point to clarify a meaning, to make something automatic for the children, or to make a usage habit forming, then it is serving the purpose. But when a drill or device is used purely because it is there and its purpose is not kept in mind, and we teach for the primary reason of only developing the technique or the drill, we are just teaching a series of drills; then its value in meaningful teaching is lost. Consequently, technique plays almost as important a role in maintaining meaningful teaching as does selected content.

In closing and to summarize, to realize a program of meaningful teaching it is necessary:

(1) To recognize the child as an individual.

(2) To recognize changing situations and differences in individuals.

(3) To further enrich the child's environment by presenting him with numerous experiences because of his limited environment due to the intrinsic factor—the hearing loss.

(4) To help him in his development into the abstract thinking areas.

(5) To encourage communication for in communication we have thinking and with thinking goes reasoning.

(6) To recognize the importance of technique and content.

All in all, if we do this, our program will be successfully meaningful.

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Problems Involved in the Placement of a Deaf Puerto Rican Child in an Educational Environment in the United States

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CONTINUED influx of the Puerto Rican deaf child into the United States brings with it the phenomenon of the physically handicapped child who might also be "environmentally" handicapped.

Administrators of schools for the deaf in this area are faced with the problem of absorbing disproportionate numbers of applicants directly from a foreign environment. The usual detailed admittance procedure is further complicated in these instances because there has not yet been developed a frame of reference with which to evaluate their characteristics. Probably, in time, and with experience, such a frame of reference will be developed, but the pressure is immediate and so necessitates an immediate consideration.

It was felt that psychological data would be needed in this evaluative process. Several meetings were held with our school psychologist and a research project was developed.

The first finding was a difference in the intelligence quotient between the three emigration groups studied. Interested in finding what these differences were due to, we went more deeply into the problem and into the data.

Following is a presentation of the initial and the more complete stages of the project:

A Comparison of Some Personality Characteristics of Deaf Students of Puerto Rican Ancestry Born in the United States, to Those Born in Puerto Rico

Not to be found in the literature relating to the education of deaf students is information dealing with psychological characteristics of the Puerto Rican deaf. This is to be

expected, since it is only recently that the influx of Puerto Ricans to the Metropolitan New York area has brought with it both a significant increase in the number of such individuals attending schools for the deaf, and the opportunity for the investigation of group characteristics.

Presently, eight per cent of the student enrollment at the New York School for the Deaf is comprised of students of Puerto Rican ancestry. Five of these students were born in this country, while nine were recently admitted to this school directly from Puerto Rico. If we expect that many more students will apply for admittance directly from Puerto Rico, we would want to know whether their previous environment has developed in these students certain psychological characteristics which would not allow for a rapid adjustment to their new environment.

We are fortunate in having students at the school who were born in this country, for a comparison with those born abroad to allow for the development of a hypothesis regarding the differential effects of environment on the deaf.

Six of the "newly arrived" students attended a residential school for the deaf in Puerto Rico. These students will be designated as *Group A*. The three remaining new students received no education at a residential school before being admitted here. This second group will be designated as *Group B*. The five students born in America will be designated as *Group C*.

Each student was given the five performance sub-tests of The Wechsler-Bellevue Adult Scales and produced a "figure drawing" for projective analysis.

Intelligence Test Results.

Individual, and the mean I. Q. for each group are presented. Included in *Table I* is each student's age and degree of hearing loss in the speech range.

It would appear, from *Table I*, that students of Puerto Rican ancestry born in this country receive higher scores on performance tests of intelligence. There is another reason, besides that of insignificant numbers, which prevents us from coming to any conclusion regarding the relative levels of intellectual functioning of the groups, and that is, that the final I. Q. score is the mean of a combination of five sub-tests, two of which, "Picture Arrangement"

and "Picture Completion," measure ability dependent to some extent on opportunity for specific learning experiences. The remaining three sub-tests, "Block Design," "Object Assembly" and "Digit Symbol" appear to measure factors which are not as likely to be as influenced by cultural learning, success in performance being largely a function of visual-motor, and visual concept formation ability.

TABLE I

	Group A			Group B			Group C		
	Hearing Loss Better Ear	Age	I. Q.	Hearing Loss Better Ear	Age	I. Q.	Hearing Loss Better Ear	Age	I. Q.
1.	60%	15.9	102	78%	13.9	102	83%	13.5	126
2.	63%	16.3	98	72%	14.0	87	80%	14.16	104
3.	80%	16.8	75	73%	15.0	105	52%	18.4	109
4.	75%	17.2	95				74%	18.7	122
5.	64%	18.6	89				42%	19.5	93
6.	82%	18.7	104						
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
	72%	17.1	93.8	74%	14.3	97	66%	16.10	110.8

A brief description of what the test author, D. Wechsler, states the tests might measure is in order now before proceeding.*

Picture Arrangement Sub-test.

This test consists of a series of pictures which, when placed in the right sequence, tell a little story. The picture series are not unlike the short comic strips to be found in the *daily papers.* . . . The subject matter of the test nearly involves some human or practical situation. The understanding of these situations corresponds to what other writers refer to as "social intelligence."

Picture Completion Sub-test.

The subject is required to discover and name the missing part of an incompletely drawn object. Performance on this sub-test depends in large measure on a familiarity with the objects. (Although not stated by Wechsler, this writer assumes that performance is dependent on the presence of the object in the student's environment, either actually or by means of pictures, movies, descriptive stories, etc., and the student's need to become aware of

* All descriptive material relating to these sub-tests is taken from, D. Wechsler, *The Measurement of Adult Intelligence*, Baltimore: The Williams and Wilkens Company. 1944. pp. 211–258.

these objects through personal curiosity, academic encouragement or insecurity.)

Block Design.

The subject is required to manipulate wooden blocks into increasingly complex patterns. Persons with a lack of synthesizing ability, i. e., abstract approach, do poorly on this test. The test is a measure of non-verbal intelligence based on Koh's test.

Object Assembly.

The test is composed of three figure formboards from which pieces are cut out. The subject is required to put the pieces into the proper relationships to complete the formboard. It tells something about one's mode of perception and the degree to which one relies on trial and error methods.

Digit Symbol.

The speed and accuracy with which the subject is able to associate symbols to abstract markings serve as a measure of his intellectual ability. More obviously neurotic subjects do badly on this test because they have difficulty in concentrating and applying themselves for any length of time and because of their emotional reactivity to any task requiring persistent effort.

Let us now compare the performance of the groups on the *Picture Arrangement* and *Picture Completion* sub-tests.

From the noticeable inferiority of *Group A* as compared to *Group C*, in performance on these two sub-tests, especially on *Picture Arrangement*, we may suggest that differences in

TABLE II

	Group A			Group B			Group C		
	Age	Picture Arrangement	Picture Completion	Age	Picture Arrangement	Picture Completion	Age	Picture Arrangement	Picture Completion
1.	15.9	4	12	13.9	11	10	13.5	14	12
2.	16.3	12	8	14.0	8	13	14.6	12	10
3.	16.8	6	9	15.0	9	13	18.4	11	14
4.	17.2	7	12				18.7	15	13
5.	18.6	5	12				19.5	8	12
6.	18.7	8	13						
	Mean 17.1	Mean 7	Mean 11	Mean 14.3	Mean 9.3	Mean 12	Mean 16.10	Mean 12	Mean 12.2

I. Q. noticed between the groups may to be due to the unfamiliarity of the members of *Group A* with the situations and the culturally determined outcomes presented in this sub-test. *Group B* data may not be directly compared to that of *Group C* because of the age differences, though it may be seen, that in spite of their lower mean age, they did better than the members of *Group A*.

TABLE III

	Group A			Group B			Group C		
	Block Design	Object Assembly	Digit Symbol	Block Design	Object Assembly	Digit Symbol	Block Design	Object Assembly	Digit Symbol
1.	13	14	8	9	11	7	13	11	6
2.	8	12	9	7	4	3	6	12	11
3.	7	6	6	9	11	9	11	12	10
4.	10	10	9				14	15	10
5.	8	11	8				10	5	11
6.	12	12	7						
	Mean 9.7	Mean 10.8	Mean 7.8	Mean 8.3	Mean 8.7	Mean 6.3	Mean 10.8	Mean 11	Mean 9.6

It will be interesting to see how the Members of *Group A* do on the sub-tests which measure the method of approach to new situations, i. e., learning ability, to determine if the inferiority noted is one aspect of a generalized lower level of functioning or if it is a specific failing resulting from lack of opportunity for learning.

TABLE IV

	Group A	Group B	Group C
Mean of "Content" Sub-tests	9	10.6	12.1
Mean of "Method" Sub-tests	9.4	7.8	10.5
Performance I. Q.	93.8	97	110.8

Although less definite, there appears to be a slight superiority of the *C Group* on *Block Design* and *Digit Symbol*.

A comparison of the sub-test performances grouped on the basis of whether "content" or "method" is measured, might reveal if the appreciably lower I. Q. earned by the "newly-arrived" students is a function of lack of stimulation, undeveloped "learning ability," a combination of both.

It would appear that differences in Performance I. Q. noticed between the groups is largely a function of differences in opportunities for learning.

Analysis of the Figure Drawings.

An analysis of the figure drawings executed to the request, "Draw a Person," or "Draw a Man," reveals the interesting result of a consistent similarity and homogeneity in the drawings of the members of *Group A* as compared to those of *Groups B* and *C*. Present in the drawings of the members of the *A* group are what K. Machover[1] chooses to call "compulsive features," i. e., buttons, shoe laces, tie pins, collar pins, belt loops, finger nails, buckle designs, intricate tie and shoe patterns, etc. Four of the drawings almost touch the top and bottom of the 8½ by 11 inch paper on which the drawing is made. All are well proportioned and would be considered "good" drawings. They are similar to drawings by non-Puerto Rican students with "average plus" intelligence. However, ranking the drawings on the basis of *degree* of *compulsivity* and then comparing this order with the I. Q., does not point up a relationship between "quality of drawing" (above the "acceptable" level) and I. Q.

One of the members of *Group B* is a serious behavior problem. His drawings indicate a less-than-satisfactory effort. The head and feet are omitted from his first drawing. From his second, eyes are omitted; arms are separated from trunk, by heavy, "anxious" lines, no dividing line separates upper body from lower body. Bizarre features are noted in his drawing of a woman. Arms are separated from the trunk, trousers were drawn, then erased (however, the cuffs were left), and a crude box-like skirt was attempted; heels resemble stilts.

The other two members of this group are brothers. One, the younger, functions on the retarded level, both on the *Wechsler-Bellevue* and in the classroom. The other, is a leader in the school boy scout troop, and is considered to be well adjusted. The drawings of both of these boys are similar to those of *Group A*. Nothing is found which would serve to differentiate these drawings from those made by non-Puerto Rican students at this school.

The drawings of the three members of *Group C* with the higher I. Q.'s, are similar to those frequently drawn by non-Puerto Rican students of "average plus" intelligence,

[1] K. Machover, *Personality Projection in the Drawing of the Human Figure*, Springfield, Illinois: C. C. Thomas. 1949. Pp. xi + 181.

but are different than those of *Group A*, in being smaller, less "compulsive" and are of figures which appear to have more vitality.

The drawings of the two remaining members of this group are disturbing. One of the students drew a cloud-like figure; no hands or feet, only the hazy outline of a disfigured torso, on top of which is perched an equally uncomfortable looking head. It appears as if the student was struggling with almost uncontrollable anxiety in the testing situation. The drawing of the other student is bizarre but for opposite reasons. Heavy lines bind the arms and legs to the torso. While in the "anxious" drawing, the torso is expanded, arms and legs missing, in this drawing, thick arms and legs are prominent, the trunk is minimized.

While a description of the drawings of the members of *Groups B* and *C* are, perhaps, interesting, they can not be used as a basis for a generalization, being as varied as they are, and not (as a group) different from those of the non-Puerto Rican students.

However, those of *Group A*, because of their striking similarity, offer, of at least, an attempt at generalization. This writer feels, on the basis of the number and types of detailed features present in the drawings of this group, that the concept of "compulsive character structure" or at least, "having compulsive traits," may be used in a description of group characteristics.

W. Reich* offers a personality description of individuals, offering in their personality structure compulsive features. He writes:

> A pedantic concern for orderliness is a typical trait of the compulsive character. His whole life in all its major and minor aspects, runs according to a preconceived inviolable program. In his outward appearance, the compulsive character shows marked restraint and control.
>
> The puberty of the compulsive character takes a typical course. There is first of all a progressive flattening of affective reactions which may impress the untrained observer as a particularly good social adjustment, and may be experienced as such by the patient himself.

* W. Reich, *Character Analysis*, New York: Orgone Institute Press, 1949. Pp. 456–516. Chapter x, "Some Circumscribed Character Forms," pp. 193–200.

Insight into the determinants of this type of behavior is given to his readers by Reich:

> The demand for self control, originally imposed from the outside on a resisting ego, was internally accepted. More than that it became a rigid, chronic unalterable mode of reaction.

As a crude attempt to validate the projective test findings, a dormitory supervisor was shown a list of the names of the boys of *Group A* and asked if he would briefly describe their behavior, if he felt he could describe their behavior group-wise. His comment follows, verbatim:

> This group is characterized by their politeness, conformity to rules and regulations and clanishness. They are constantly talking to each other about Puerto Rico. They do not, as a rule, participate in sports. When they do participate, they are relatively poor at all sports.

Summary.

In the way of a summary, it may be seen that there are differences, both in level of intellectual functioning and in personality structure between a group of students of Puerto Rican ancestry born in this country, and those who received training in Puerto Rico.

Differences in I. Q. between the groups may be explained on the basis of differences in social opportunity. If, however, academic success is to be predicted on the basis of intelligence test scores, then the determining of future school achievement must, because of the intra-test variability, remain an individual matter.

If we are to consider character functioning as a function affecting a total school adjustment, then it is seen that we may anticipate that applicants from Puerto Rico who attended the school for the deaf, will present certain personality features, compliance and self-control, which allow for adjustment to residential school living. It will be the responsibility of the school administration, presented with the configuration of personality, to consider the relative benefits to the student and to the student body of admittance.

The next area which is in need of study is that of overcoming the language handicap due to environmental difference as well as physical disability.

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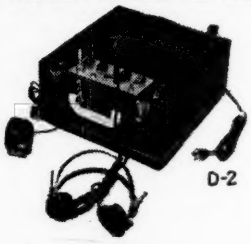

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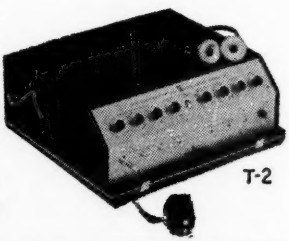

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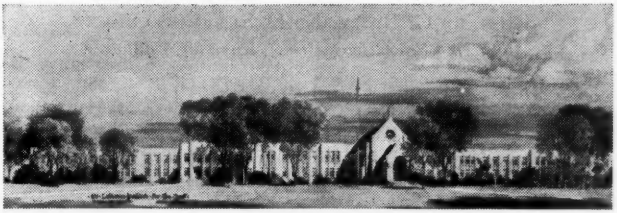

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An Experiment in the Training of Deaf Children in Memory for Sentences

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I. INTRODUCTION

THE lack of language and the lack of ability to communicate with ease is the basic handicap of deaf children. Involved in the communicative process is the ability to retain a sentence in the mind for a given period of time. There is some evidence that people with normal hearing have auditory memory and visual memory, and the auditory memory acts to reinforce the visual memory, and vice versa. Even though a hearing person reads a sentence silently, he may say the sentence sub voce and thus as far as his mind is concerned still has the benefit of both approaches. The typical deaf child has only the visual approach, whether it is reading, speech reading, or the manual language which is being used. Thus there is only the single avenue to the mind.

The question of whether with this single approach the deaf child has as good a memory for the retention of a sentence as a hearing child is important, and if his retention is not as good, the question of whether this memory for sentences can be improved by a training program assumes major importance. Even when a deaf child understands a sentence, if he cannot retain it as long as a hearing child, this becomes a part of the over-all language problem of the deaf.

II. THE PROBLEM

An experiment was carried on:

(a) To determine whether the memory for sentences of a group of deaf children can be significantly improved by means of a training program;

(b) To determine whether the effects of a training program persist after training ceases;

(c) To determine whether the memory for sentences of a group of deaf children differs significantly from that of a group of public school children of the same chronological age range.

TABLE I

DATA FOR MATCHED GROUPS OF DEAF SUBJECTS

	Test A	Test B	C. A.	Yrs. in School	Stanford Rdg. Score
Control group	M = 88.9 σ = 7.2	M = 133.66 σ = 26.8	13.9	8.5	M = 2.42 σ = .50
Experimental group	M = 90.7 σ = 7.8	M = 131.8 σ = 28.8	14.0	8.7	M = 2.85 σ = .49
t	.51	.14			1.86

III. SELECTION OF SUBJECTS

The deaf children were all selected from the Manual Department of the Illinois School for the Deaf. Twenty-five children were selected and tested with Test A and Test B of the Memory for Sentences Test which is described later. From the group of twenty-five subjects two matched groups of ten subjects each were selected. One group was designated the control group and the other the experimental group. The groups were selected in such a manner that the following factors were held constant:

(a) The mean and the standard deviation of the two groups on the two tests were about the same.

(b) They had about the same distribution of chronological ages.

(c) They had about the same distribution of learning ability as judged by their teachers and supervising teacher.

(d) All subjects were typically deaf before language was acquired. The data for the matched groups of deaf subjects are presented in Table I.

The hearing children used in this study were twenty-four children from a seventh grade social studies class in the Jacksonville, Illinois, Junior High School. The chronological age range of the children in this group was from 12 to 14. The average I. Q. as determined by the Otis Intelligence Test was 103.4 with a standard deviation of 16.75. The average reading grade was 7 years and 4 months.

IV. Testing Procedure

Pretests and final tests each consisted of two parts, Tests A and B, and Tests C and D, respectively. Tests A and C were parallel 4–5 word sentence tests and Tests B and D parallel 8–10 word sentence tests. All four tests were constructed by random selection from a pre-prepared list of sentences with vocabulary and totality of ideas familiar to all the subjects and consisted of twenty sentences each.[1]

Sentences were printed in manuscript style on white cardboard strips 4″ by 36″ with a No. 5 Drawlet pen and india ink.

A wooden tray, suspended against one wall of the test room, was used for flashing the sentences. By placing gray cardboard strips of the same size between the sentences and dropping the facing cards and flash cards alternately into the tray it was possible to expose the test sentences for the desired time interval.

Sentences in the 4–5 word sentence tests, A and C, were flashed for two seconds; sentences in the 8–10 word sentence tests, B and D, for four seconds. This flash interval is at a rate of two and a half words per second.

The sentences were written by the children on printed forms distributed at the beginning of each test period.

The children were told that sentences would be flashed on the cards for two (or four) seconds, depending on the test. They were instructed to read the sentence carefully and when the flash card was dropped to write the sentence exactly as it appeared on the flash card in the appropriate numbered space on the printed form. The children were also instructed, in case they were not able to remember the whole sentence, to write those parts they remembered. They were requested to work quietly and after a sentence had been written wait for the next sentence to be flashed.

After these directions were understood a practice period with five sentences was held to make sure that all the subjects clearly comprehended what was expected of them.

Tests were scored in accordance with the scoring rules.[2]

All four tests, A, B, C, and D were administered to the group of hearing subjects just once, at the beginning of the experiment.

[1] Cf. Post, Appendix A.
[2] Cf. Post, Appendix B.

Tests A and B were administered to the total group of deaf subjects at the beginning of the experiment. From the results obtained the group of deaf subjects was divided into two matched groups, an experimental group and a control group.

After seven weeks of training for the experimental group Tests C and D were administered to both deaf groups.

Ten weeks after training ceased all four tests were again administered to both deaf groups.

V. Training Procedure

Training was carried on with the experimental group during a daily 20 minute period for seven weeks.

The training program was conducted in a manner similar to the testing procedure. Sentences used in training were written on flash cards in longhand with black wax crayon. On occasion the flash interval was increased; in the early stages sometimes as much as twice the testing rate. Both speed and correctness of response were encouraged.

During the first two weeks sentences 3–4 words long were used exclusively. During the third and fourth weeks sentences 5, 6, 7, words long were used, and 8–10 word long sentences were used during the remaining period.

The general procedure in checking for errors was as follows: errors would be indicated but not corrected, corrections being made independently by the subject or by reference to the flash card the following day; or the sentences after having been written by the subjects would be flashed again in the same order for comparison by the pupils; or each sentence would be flashed twice, once for writing the sentence and once for immediate comparison by the pupil.

During the first two weeks of training a list of most common errors was posted in the testing room and referred to frequently. Pupils were encouraged to study their own errors and make a conscious effort to eliminate them.

No sentences actually used in testing were used in training. Training sentences were either disconnected sentences or sentences in sequence as part of a story or description.

VI. Findings

As is shown in Table II there is no significant difference between the deaf group and the hearing group when tested with 4–5 word sentences as in Test A. When the results of

Test B are compared which utilized sentences of 8–10 words in length the differences are highly significant with the public school group getting the higher scores.

The fact that there are no significant differences for the public school group between Test A and Test C, nor between Test B and Test D is evidence that these are actually parallel test forms as they were intended to be.

TABLE II

RESULTS OF TESTS WITH HEARING CHILDREN AND DEAF CHILDREN BEFORE TRAINING

Test A—Total deaf group	N = 20	M = 89.8	σ = 7.6	σ_m = 1.7
Public school group	N = 24	M = 93.69	σ = 9.5	σ_m = 2.0
No significant difference		df = 42	t = 1.5	
Test B—Total deaf group	N = 20	M = 132.75	σ = 28.01	σ_m = 6.3
Public school group	N = 24	M = 175.40	σ = 31.1	σ_m = 6.5
Significant at 1% level		df = 42	t = 4.69	
		(1% level = 2.696)		
Test A and Test C—Public School Group				
Test A	N = 24	M = 93.69	σ = 9.5	σ_m = 2.0
Test C	N = 24	M = 94.08	σ = 9.0	σ_m = 1.9
No significant difference		t = .14		
Test B and Test D—Public School Group				
Test B	N = 24	M = 175.40	σ = 31.1	σ_m = 6.5
Test D	N = 24	M = 175.7	σ = 28.8	σ_m = 6.0
No significant difference		t = .03		

After the seven week training period for the Deaf Experimental Group both deaf groups were tested with Test C and Test D. Table III gives the results of these tests. With the short sentences as tested by Test C the difference between the two groups was not statistically significant. The difference between the two groups on the long sentences as tested by Test D was significant at the 5% level.

The Experimental Group improved to such an extent that quantitatively there was no significant difference between their scores and the scores of the Public School Group on Test D.

Ten weeks after training stopped the total deaf group was tested on all four forms of the test. The results as shown in Table IV show that at that time there were no significant differences between the Experimental Group and the Control Group on any of the tests. There were some differences as in every test the Experimental Group had higher means, but these differences were not statistically different on a quantitative basis. The mean scores of both the Experimental and Control Groups had increased since Tests C and D had been given at the conclusion of the

TABLE III

RESULTS OF TESTS AFTER TRAINING OF DEAF EXPERIMENTAL GROUP

Test C—Experimental Group	N = 10	M = 92.7	σ = 4.6	σ_m = 1.53
Control Group	N = 10	M = 86.52	σ = 8.3	σ_m = 2.77
No significant difference	df = 18		t = 1.95	
	(5% level = 2.101)			
Test D—Experimental Group	N = 10	M = 161.13	σ = 17.3	σ_m = 5.8
Control Group	N = 10	M = 138.3	σ = 25.8	σ_m = 8.6
Significant at 5% level	df = 18		t = 2.21	
	(5% level = 2.101)			
	(1% level = 2.878)			
Comparison—Test D				
Public School Group	N = 24	M = 175.7	σ = 28.8	σ_m = 6.0
Experimental Group	N = 10	M = 161.3	σ = 17.3	σ_m = 5.8
No significant difference	df = 32		t = 1.73	
	(5% level = 2.037)			

training period ten weeks earlier. The increase in the mean of the Control Group had been enough greater than the increase of the Experimental Group to eliminate the statistical difference.

VII. CONCLUSIONS

This study has shown that deaf children do not have a memory for sentences which are longer than four or five words in length that is the equivalent of the memory of hearing children for sentences. Although the hearing children were more advanced educationally, all of the sentences used were such that they were understood by the deaf children, so theoretically this difference in educational level of the two groups should not have been a factor.

Deaf children show temporary improvement in memory for sentences after a period of training. Quantitatively this improvement raises the deaf children to the level of the hearing children in this respect. It is the feeling of the investigators that there was a qualitative difference which

TABLE IV

RESULTS OF TESTS TEN WEEKS AFTER TRAINING HAD STOPPED

Test A—Experimental Group	N = 10	M = 95.98	σ = 3.3	σ_m = 1.1
Control Group	N = 10	M = 92.60	σ = 5.47	σ_m = 1.82
No significant difference	df = 18		t = 1.6	
Test B—Experimental Group	N = 10	M = 162.2	σ = 22.3	σ_m = 7.4
Control Group	N = 10	M = 137.2	σ = 33.2	σ_m = 11.1
No significant difference	df = 18		t = 1.88	
Test C—Experimental Group	N = 10	M = 94.00	σ = 3.76	σ_m = 1.25
Control Group	N = 10	M = 89.53	σ = 6.9	σ_m = 2.3
	df = 18		t = 1.72	
Test D—Experimental Group	N = 10	M = 166.4	σ = 20.4	σ_m = 6.8
Control Group	N = 10	M = 146.4	σ = 23.3	σ_m = 7.8
No significant difference	df = 18		t = 1.94	

is not reflected statistically so that actually the deaf children are not on the level with the hearing children in this respect after training. The qualitative factors are indicated by the types of errors such as errors in spelling, types of omissions, and the mistakes in tenses and number which were not the same for both groups.

After a ten week interval following the close of training all of the deaf children improved, and those who were in the Control Group and had not had training improved to such an extent that there was no significant difference between the two groups. A possible explanation of this occurrence is the fact that the deaf children in this experiment were all selected from the Manual Department of the Illinois School. All of these children have daily or weekly training periods in reading finger spelling, and this is actually another means of training the memory for sentences.

This study seems to indicate that lack of memory for sentences is part of the over-all language handicap of deaf children, and while this specific skill can be improved to some extent by specific training, real and lasting improvement seems to be influenced by other educational factors. Probably only a raising of the total language ability of the deaf child will bring lasting improvement in his memory for sentences.

APPENDIX A

Test A

1. John went to the gym.
2. We saw the airplane.
3. The house was old.
4. My father was sick yesterday.
5. We walked to the park.
6. The children had fun.
7. Mr. Kline came to our room.
8. I saw the fire.
9. Helen wrote two letters.
10. John's father is a farmer.
11. My brother lives in Springfield.
12. The room is cold.
13. We played basketball today.
14. It snowed all day.
15. John sits near the window.

APPENDIX A

Test A (Continued)

16. We bought a Ford.
17. I saw Mr. Cloud yesterday.
18. The door was open.
19. We will go to Chicago.
20. He closed the window.

Test B

1. The children went to the circus in Springfield in November.
2. My father works in a shoe store in Chicago
3. Mr. Taylor asked John to wash his car Saturday.
4. The boy gave Mr. Orman a note from Mr. Kline.
5. The teacher asked John and Henry to wash the slates.
6. Mr. Kline came to Unit III to see Mr. Orman this morning.
7. My little brother will be five years old next Thursday.
8. Miss Dial told Henry and John to go to the hospital.
9. I saw two men walking on the road to Springfield.
10. Tomorrow night we will have a party in the gym.
11. Henry bought a shirt and pair of shoes Saturday.
12. John is older than Henry but Henry is taller.
13. I went to the gym after dinner to see Mr. Wilson.
14. He slipped on the ice and hurt his hand.
15. The man in the hall talking with Mr. Orman is Mr. Cloud.
16. Mr. Taylor was a housefather here for many years.
17. John found his fountain pen under the teacher's desk.
18. The dog chased the rabbit into the woods.
19. This morning Henry went home with his sister.
20. The boys and girls clean their rooms after breakfast.

Test C

1. The window was open.
2. Mother made a cake.
3. I read two stories.
4. Yesterday we went to town.
5. He is fifteen years old.
6. John is not here.
7. Helen goes home everyday.
8. The show was very good.

APPENDIX A

Test C (Continued)

9. I am making an airplane.
10. We were walking to town.
11. We liked the movie.
12. John saw his brother.
13. They came back to school.
14. Henry closed the window.
15. I have a brown suit.
16. He drew a clown.
17. I know where he lives.
18. Our room was cold.
19. The clowns were very funny.
20. I will read the book.

Test D

1. We won the basketball game with Routt last night.
2. Henry fell on the stairs and hurt his knee.
3. My brother in Chicago will come to see me soon.
4. Mr. Wilson gave us a new basketball in the gym today.
5. The children went to the gym for the party.
6. An airplane flew low over our school this morning.
7. There are many pictures of Lincoln in the hall.
8. John went to the store for his mother after school.
9. Mrs Taylor is a housemother in Unit III this year.
10. We went to the barn to see the new calf.
11. Miss Dial put some flowers in the vase on her desk.
12. I went to the office to get my box.
13. Mr. Kline lives in a house near the football field.
14. The children have cookies and milk before recess.
15. A man came to our room and fixed the window.
16. I saw Mr. Cloud talking with Mr. Kline and Mr. Wilson.
17. I got a letter from my brother in Korea.
18. The teachers had a meeting yesterday after school.
19. I saw John going to the hospital with Henry.
20. We bought some Christmas cards in town Saturday.

APPENDIX B

Scoring Rules

1. A sentence completely correct received a credit of 10 points for 8–10 words and 5 points for 4–5 words.
2. When all the words of a sentence were not written in correct order, only those words which were in order received credit.
3. Whenever part of a sentence was correct, a proportionate part of the 10 or 5 points credit was allowed. For example, three words of a nine word sentence correct received 3/9 of 10, or 3.3 points. Similarly, three words of a five word sentence correct received 3/4 of 5, or 3.75 points.
4. Whenever the tense of a verb was changed, the word was scored incorrect.
5. Whenever the plural form for a singular word was written no credit was given.
6. Similarly, whenever the singular form of a plural word was written no credit was given.
7. When additions were made to the sentence the sentence was considered incorrect and only words correct received credit.
8. When a substitution was made which did not in any way change the meaning of the sentence, it was scored as correct. For example, full credit was given if the sentence was: "My little brother has blue eyes and yellow hair," and was written: "My little brother has blue eyes and blond hair." Credits for such substitutions were rare.
9. Whenever a word was misspelled, full credit was given only in the case of proper nouns misspelled the first time.

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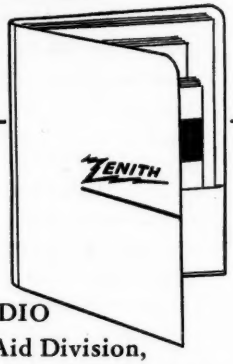

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Safeguarding Opportunity for Higher Education for Those with Impaired Hearing

IRVING S. FUSFELD, *Dean*
Gallaudet College, Washington, D. C.

By force of enlightened and recently aroused interest in audiology and in the conservation of hearing, particularly as concerns children, a noteworthy movement has been under way within the past decade or two, almost a revolution it may be said, with respect to problems involved in impairment of hearing. This movement is reflected in an increase in clinical organization and in clinical and social welfare centers devoted to aid in matters of hearing loss, in establishment of special classes in the public schools, in a widespread increase in use of instruments of measurement of hearing, amplifying devices, hearing aids, both group and individual, in an aroused interest in problems of hearing in medical school curricula, and in the acoustic programs in schools for the deaf.

This movement has also met an encouraging response on the part of colleges and universities with respect to their own student personnel. Recognition has been more widespread as to needs of the field, and in a number of cases a thoroughgoing program of providing for the special adjustment needs of students with a hearing handicap has been instituted as a supporting feature of the broader health education setup.

A further manifestation of this interest was a report presented before the Third National Conference on Health in Colleges, meeting in New York City May 7 to 10, 1947 (published in 1948 by the National Tuberculosis Association, 1790 Broadway, New York, 19, N. Y.) by its Committee on Handicapped Students. In that statement it was noted that 60 percent of the 207 colleges for which report was made conducted routine tests of hearing. The Committee recommended further that students with a physical handicap "who are intellectually qualified and who can make necessary adjustments to meet their phys-

ical limitations should not be denied opportunities for college education."

The same committee of the Association offered the following conclusions concerning students with hearing defects:

Reports indicate that hearing loss among college students may be increasing. Actually, such reports of increased incidence reflect the refinements which have been made in our methods of detecting hearing loss. It is believed that, with modern methods of detecting hearing loss, about 10 percent of college students will show significant loss of hearing in one or both ears.

The committee agreed upon the following recommendations:

1. The college should provide a screening test for hearing defects as part of the matriculation health examination. The instrument recommended is the pure tone audiometer as used by the United States Navy for group testing, done under controlled sound-dampening conditions. Such testing can be carried out satisfactorily by a clinic assistant following instruction of one week.

2. Students found to have a hearing loss of more than 15 decibels for frequencies of 512, 1024, and 2048 on the pure tone audiometer group test should be retested individually. Those found to have the same degree of hearing loss upon retesting should be referred to an otologist, preferably one with special interest in the conservation of hearing.

3. The college should provide counseling services for students with hearing defects with special refereces to the selection of courses, seating arrangements in classrooms, vocational guidance, and psychosocial problems.

4. Where indicated, arrangements should be made for the provision of hearing aids and instruction in lip reading.

5. Provision should be made in the college for an interchange of information between appropriate departments regarding the special problems and needs of individual students with hearing loss.

6. Attention is called to the importance of early and active treatment of ear disease and predisposing factors as a preventive measure in the conservation of hearing.

A program as suggested by the recommendations just listed, together with that of Gallaudet College where enrollment is open to students whose hearing is so impaired as to be non-functional for the ordinary purposes of life and who for that reason cannot otherwise progress satisfactorily in other colleges, should form a satisfactory meeting of the broad need. An extension of these principles would go far toward assuring that the advantages of higher education are not denied anyone by reason of impaired hearing, no matter what the degree of loss is.

SUMMER SCHOOLS FOR TEACHERS OF THE DEAF AND HARD OF HEARING

1953

College, University or Clinic	Location	Director	Term	Courses Offered	Credits Offered	Tuition Fees	Faculty
Alabama							
University of Alabama	University, Ala.	C. E. Williams	June 8–Aug. 21	Audiology, Acoustic Trg., Parent Inst.,—Speech Clinic	Graduate—Undergraduate	Unit Fee $20.00 (term)	
California							
Los Angeles State College	Los Angeles, 855 N. Vermont Ave.	Albert D. Graves	June 22–July 31	Audiology, Acoustic Trg., Exceptional Child, Methods of Teaching Deaf, Practice Teaching, Psychology of the Handicapped, Speech Clinic, Speech Correction, Speechreading	Graduate—Undergraduate	$7.50 per unit	
John Tracy Clinic [1]	Los Angeles, 806 W. Adams Blvd.	Mrs. Spencer Tracy	June 22–July 30	Testing Hearing of Preschool Children, Acoustic Trg., Language for Deaf, Methods of Teaching Deaf, Parent Inst.,—Practice Teaching, Preschool Education of Deaf, Seminar, Speech for Deaf, Speechreading	Graduate 4 or Undergraduate 4	Teachers in service $68.00, others $76.00	Mrs. Alathena Smith, Marguerite Stoner, Ethel Crane, Georgina Rushford, Mary Wales, Gloria Hoversten, Alice Dorsey
University of Southern California*	Los Angeles 7, Univ. Park	Dr. John D. Cooke	June 22–Aug. 28	Methods of Teaching the Deaf, Speech Clinic	Graduate—Undergraduate	$19.00 and $20.00	Wendell E. Cannon, Miss Moore, Miss Stoner, Miss Smith, Miss Dorsey
San Diego State College	San Diego 15	Charles W. Lamden	June 29–Aug. 28	Atypical Child, Exceptional Child, Special Education, Speech Clinic, Speech Correction, Speech for the Deaf	Graduate—Undergraduate	$7.50 per unit	Francis A. Ballantine, Sue W. Earnest, Charles W. Watson, Fred R. Bode
San Francisco State College* [2]	San Francisco	Leo F. Cain	June 22–July 31	Workshop for Teachers of Deaf in: Audiology and Acoustic Trg., Language for the Deaf, Reading for the Deaf, Courses in: Exceptional Child, Speech Correction, Speech for the Deaf	Graduate—Undergraduate	$7.50 per unit	Pricilla Pittenger, Vivian Lynndelle, Natalie Nelson, Edna Louargand

College of the Pacific*	Stockton 4, California	Dr. Howard L. Runion	June 22–Aug. 28	Audiology and Acoustic Training, Practice Teaching, Preschool Education of Deaf, Speech Clinic, Speech Correction, Speech for Deaf, Speechreading, Thesis	Graduate—Undergraduate	$10.00 per week	Robert West, Loida Farrow Howard L. Runion
Whittier College	Whittier, Calif.	Dr. Harold F. Spencer	June 22–Aug. 28	Andiology and Acoustic Training, Exceptional Child, Speech Clinic, Speech Correction, Speechreading	Graduate—Undergraduate	$13.50 per unit	Ethel Carter, Verna Brienholt, Dr. Douglass
COLORADO University of Colorado*	Boulder, Colo.	Clifford Houston	June 15–Aug. 25	Atypical Child, Exceptional Child, Practice Teaching, Speech Clinic, Speech Correction, Speech for Deaf	Graduate—Undergraduate	State residents $29.00–$32.00 Non-resident $59.00–$62.00 for 5-week term	Charlotte Wells, Milton Valentine
DISTRICT OF COLUMBIA The Catholic University	Washington, D. C.	Roy J. Deferrari	June 24–Aug. 8 Workshop–June 12–23	Atypical Child, Audiology and Acoustic Training, Exceptional Child, Practice Teaching, Psychology of the Handicapped, Rehabilitation Problems of Deaf, Seminar, Special Education, Speech Correction, Workship for Teaching of Exceptional Child	Graduate—Undergraduate	Workshop: Tuition—$70.00	Summer Session: Rev. Hugh Loughery, O.P., Ph.D. Margaret O'Gara M.A. Workshop: (Special Education for Aurally Handicapped, Frank J. O'Brien, Joseph P. Youngs, Jr.
ILLINOIS Northwestern Univ.*	Evanston, Ill.	Raymond Carhart	6 week session June 19–Aug. 1 9 week session June 19–Aug. 19	Audiology and Acoustic Training, Practice Teaching, Seminar, Speech Clinic, Speech Correction, Speechreading	Graduate—Undergraduate	$121.50 to $170.00	Marjorie Burkland, Raymond Carhart, John Gaeth, Geneva Jeffers, Helmer Myklebust, Harold Westlake
ILLINOIS STATE NORMAL College*	Normal, Ill.	Arthur H. Larsen	June 15–Aug. 7	Audiology and Acoustic Training, Language for the Deaf, Practice Teaching,—Psychology of Handicapped, Special Education, Speech Clinic, Speech Correction, Thesis	Graduate—Undergraduate	State residents $22.50 Non-residents $37.50	

SUMMER SCHOOLS FOR TEACHERS OF THE DEAF AND HARD OF HEARING

1953

College, University or Clinic	Location	Director	Term	Courses Offered	Credits Offered	Tuition Fees	Faculty
Indiana							
Ball State Teachers College	Muncie, Ind.		June 8–Aug. 14 Post term Aug 17–27	Exceptional Child, Parent Inst., Speech Clinic, Speech Correction, Speech for Deaf, Speechreading, Thesis	Graduate—Undergraduate	State residents $22.00 Non-residents $34.00	Roma Hayworth Tirey, Mary M. Jaeger
Indiana State Teachers College	Terre Haute, Indiana	Dr. J. E. Grinnell	June 15–Aug. 21	Mental Measurement (including Deaf) Mental Hygiene, Hearing Conservation and Pathology, Speech Correction	Graduate—Undergraduate	State-residents $23.00 Non-residents $29.00	Rutherford B. Porter, Edward I. Jordan, Kenneth Orr
Kansas							
University of Kansas	Lawrence, Kansas City, Olathe, Kansas		June 15–Aug. 8	Language for Deaf, Clinical Practice in Problems of Hearing, Clinical Practice in Speech Correction, Workshop: Educational Conference in Hearing and Speech Correction	Graduate—Undergraduate	State residents at Lawrence $35.00 at K. C. and Olathe $32.50 Non-residents: Lawrence $75.00 K. C., Olathe $72.50	Mildred A. Groht, June Miller
Michigan							
Wayne University	Detroit, Mich.	John W. Tenny	June 22–Aug. 1 Intersession Aug. 3–14	Atypical Child, Audiology, Exceptional Child, History of Education of Deaf, Language for Deaf, Methods of Teaching Deaf, Speech Correction, Speech for Deaf, Vocational Education for Deaf	Graduate—Undergraduate	State residents: Graduates $11.75 per hr. Undergrads $9.75 per hr. Non-residents: Graduates $21.75 per hour Undergrads $19.75 per hour (Scholarships available)	Jack Clark, George Kopp, Bruce Siders, Agnes Stokoe, John W. Tenny

Michigan State Normal College	Ypsilanti, Mich.	F. E. Lord	June 17–July 24	Exceptional, Child, Language for Deaf, Practical Teaching, Psychology of the Handicapped, Speech for the Deaf, Speechreading	Graduate—Undergraduate	State residents: Graduate $40.00 Undergraduate $35.00 Non-residents: Graduate $105.00 Undergraduate $45.00	Helen B. Adams, Mrs. Theresa J. Chism, Mrs. Gwendolyn Powrie, Ora Mae Swartwood Mrs. Sophie French
MISSOURI							
St. Louis University	St. Louis 3, Mo. 221 N. Grand	M. B. Martin	June 6–Sept. 4	Exceptional Child, Speech Correction, Workshop for Teachers of the Deaf	Graduate—Undergraduate	State residents: $17.50 per semester hour Non-residents same	Miss Behrmann, Mary Lou Rush
Washington University	St. Louis, Mo.	S. C. Gribble	June 15–Aug. 28	Atypical Child	Graduate—Undergraduate	$52.50	Helen Schick Lane
NEBRASKA							
University of Nebraska Teachers College	Lincoln, Neb.			Speech Pathology, Aural Rehabilitation, Psychology of Exceptional Children, Advanced Speech Pathology			
NEW YORK							
Teachers College, Columbia University*	New York City, 525 W. 120th St.	Thomas C. Izard	July 6–Aug. 14	Audiology and Acoustic Training, Methods of Teaching the Deaf, Preschool Education of the Deaf, Psychology of the Handicapped, Rehabilitation Problems of Deaf, Special Education, Speech for the Deaf, Workshop for Teachers of the Deaf, The Auditory and Vocal Mechanisms	Graduate—Undergraduate	$25.00 per point, plus University fee	Mrs. Eleanor C. Ronnei, Moe Bergman, Edward P. Fowler, Jr. Louis Kleinfeld, Paul Lindenberg Jules Waltner, Estelle E. Samuelson

SUMMER SCHOOLS FOR TEACHERS OF THE DEAF AND HARD OF HEARING

1953

College, University or Clinic	Location	Director	Term	Courses Offered	Credits Offered	Tuition Fees	Faculty
Syracuse University	Syracuse, N. Y.			Introduction to Hearing and Speech Disorders, Audiometric Methods, Education and Development of Children with Impaired Hearing, Articulation and Voice Disorders, Clinical Methods and Practice in Speech and Hearing Therapy, Psychology of Exceptional Children			
North Carolina East Carolina Teachers College	Greenville, N. C.	Leo W. Jenkins	June 8–Aug. 21	Exceptional Child, Special Education, Special Clinic, Speech Correction	Graduate—Undergraduate	State resident $23.00 term Non-residents $40.50 term	Mrs. D. Perkins
Western Carolina Teachers College	Cullowhee, N. C.			The Hard of Hearing Child, The Speech Handicapped Child, Introduction to Exceptional Child, Clinical Practice in Special Education, Audiometric Testing and Hearing Conservation			
Ohio Cleveland Hearing and Speech Center[3]	Cleveland, Ohio			Speech Correction, Lipreading, Auditory Training, Differential Diagnosis, Hearing Aid Evaluation, Voice Pathology			Nancy E. Wood, Marguerite LeFevre, Lucy Moore, John Irwin, Iseabel Starky
Ohio State University	Columbus, Ohio	W. Hayes Yeager	June 23–Aug. 28	Exceptional Children, Research in Special Education, Post-School Adjustment of Handicapped Children, Speech Pathology, Hearing	Graduate—Undergraduate		

Kent State University	Kent, Ohio	John R. Montgomery (Dir.—Speech and Hearing)	June 22–July 21	Exceptional Child, Language for Deaf, Methods of Teaching Deaf, Practice Teaching, Preschool Education of the Deaf, Reading for the Deaf, Seminar, Special Education, Speech Clinic, Speech Correction, Speech for the Deaf, Speechreading, Thesis	Graduate—Undergraduate	State residents: $23.50 Non-residents $48.50	Rachael Dawes Davies, Eleanor L Gray, John R. Montgomery
OKLAHOMA University of Oklahoma	Norman, Oklahoma	John W. Keys	June 9–Aug. 9	Atypical Child, Audiology and Acoustic Training, Language for the Deaf, Methods of Teaching the Deaf, Practice Teaching, Psychology of the Handicapped, Speech Clinic, Speech Correction, Speech for the Deaf, Speechreading, Thesis	Graduate—Undergraduate	$66.00 per semester	Alice Burtnett, John W. Keys, Percy Teska, John Boland, Laurel Schendel, Verdry Vaughan
PENNSYLVANIA University of Pittsburgh	Pittsburgh, Pa.			Psychology of Exceptional Children, Speech Correction, Aural Rehabilitation of Children, Clinical Practice in Audiology			
The Pennsylvania State College	State College, Pennsylvania	E. T. McDonald	June 9–Aug. 28	Atypical Child, Audiology and Acoustic Training, Exceptional Child, Practice Teaching, Psychology of the Handicapped, Rehabilitation Problems of the Deaf, Special Education, Speech Clinic, Thesis	Graduate—Undergraduate	$10.00 per credit	Margaret Raahe, Bruce M. Siegenthaler, E. T. McDonald, A. J. Berlin, James Frick
TENNESSEE University of Tennessee	Knoxville, Tenn.		June 15–Aug. 22	Speech Correction, Speech Clinic, Lipreading, Audiometric Testing, Education of Exceptional Children, Psychology of Exceptional Children		Non-resident: $37.50 (6 weeks)	
TEXAS Southwest Texas State Teachers College	San Marcos, Texas			Workshop in Auditory Testing and Aural Rehabilitation			

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College, University or Clinic	Location	Director	Term	Courses Offered	Credits Offered	Tuition Fees	Faculty
Virginia							
Virginia State College*	Petersburg, Va. Hampton, Va.			Atypical Child, Acoustic Training, Speechreading, Language for Deaf, Methods of Teaching Deaf, Manual Alphabet, Reading for the Deaf, Language of Signs, Speech for the Deaf, Thesis, Workshop for Teachers of the Deaf	Graduate—Undergraduate		Elizabeth Benson, Joseph P. Youngs
Washington							
University of Washington	Seattle 5, Washington	Eric L. Barr	June 22–Aug 21	Audiology and Acoustic Training, Speech Correction, Introduction to Hearing, Methods in Aural Rehabilitation, Clinical Practice in Aural Rehabilitation, Audiometry		$57.50 full quarter, $40.00 either term	C. N. Hanley, John M. Palmer, James A. Carrell
Wisconsin							
University of Wisconsin	Madison, Wis.			Hearing Rehabilitation			
Marquette University	Milwaukee, Wis.	Rev. Eugene H. Kessler, S. J.	June 22–July 31	Speech Clinic, Speech Correction	Undergraduate	$15.00 per semester hour	C. Raaf, Thaddeus Paruszynski
Wisconsin State College	Milwaukee, Wis.	A. A. Suppan	June 22–July 31	Atypical Child, Exceptional Child, Parent Inst.,—Practice Teaching, Reading for the Deaf, Speech Clinic, Speech Correction, Remedial Reading	Graduate—Undergraduate	$40.00 (subject to change)	Marjory Magner, Harry Johnson, Alice Streng

* Deaf students may enroll (University of Colorado will provide interpreters Virginia State College will provide interpreters)

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[2] Affiliation: Bureau of Special Education—California State Department of Education

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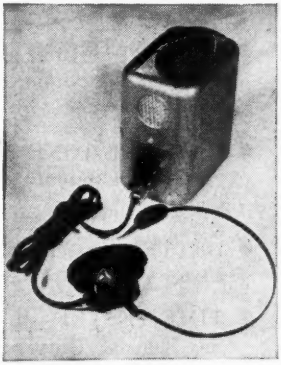

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The AMERICAN ANNALS OF THE DEAF was founded in 1847 at the American School for the Deaf in Hartford, Connecticut, by the members of the faculty of that school, which is the first free public school for the deaf in America. Although the journal received the approval of the administrative school authorities, the periodical was first entirely sponsored by the members of the faculty. After two years the ANNALS was discontinued for some months but was revived by the members of the Convention of American Instructors of the Deaf in their first meeting in New York, N. Y., in 1850.

In April, 1861, the publication ceased because of the War Between the States, inasmuch as the membership of the Convention was made up of northerners and southerners in almost equal proportion. In September, 1868, the AMERICAN ANNALS OF THE DEAF resumed publication with the editorial offices on Kendall Green, in Washington, D. C., where it has since remained.

The AMERICAN ANNALS OF THE DEAF is the official organ of the Conference of Executives of American Schools for the Deaf, which was organized in 1868, and of the Convention of American Instructors of the Deaf, founded in 1850. According to the Library of Congress it is the oldest educational publication in the United States still in existence. It is also the oldest journal on the education of the deaf in the world.

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